UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/543,008	07/21/2005	Stefan Huber	3717483-00035	2577

29177 7590 12/16/2010

K&L Gates LLP
P.O. BOX 1135
CHICAGO, IL 60690

EXAMINER	
KARACSONY, ROBERT	
ART UNIT	PAPER NUMBER
2821	

MAIL DATE	DELIVERY MODE
12/16/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/543,008	HUBER ET AL.	
	Examiner	Art Unit	
	ROBERT KARACSONY	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 October 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-17 and 19-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-17 and 19-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The following Office Action is in response to the Amendments received October 12, 2010. Claims 12-17 and 19-22 are currently pending.

Continued Examination Under 37 CFR 1.114

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on October 12, 2010 has been entered.

Claim Objections

3. Claim 12 is objected to because of the following informalities:

4. In line 16, claim 12, please replace "the conductor" with --conductor-- to comply with antecedent basis rules.

5. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 12, 13, 16, 19, 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Poilasne et al. (US 6,323,810, hereinafter Poilasne).

Claim 12: Poilasne teaches a multiband antenna array for a mobile radio equipment, comprising: a planar patch antenna (10, fig. 4) defining a plane and having a plurality of resonances and is further coupled to a ground connection (22, fig. 4) and to a high-frequency interface (20, fig. 4); and a plurality of parasitic transmitters (319, fig. 8), wherein said plurality of parasitic transmitters are located marginal to the planar patch antenna (fig. 8), outside of the planar patch antenna (fig. 8), and in the plane defined by the planar patch antenna (fig. 8), each of the plurality of parasitic transmitters being embodied so as to be free of said high-frequency interface (fig. 8), wherein said plurality of parasitic transmitters are arranged as line-type conductor structures (the Examiner notes that the limitation "line-type" is broad enough to encompass parasitic elements 319, see fig. 8), wherein at least one (any one of 319, fig. 8) of said plurality of parasitic transmitters includes a first portion (longitudinal edge of 319, fig. 8) that extends in a first dimension in the plane and a second portion (lateral edge of 319, fig. 8) that extends in a second different dimension in the plane, wherein the first portion at least partially extends over a first adjacent side of the planar patch antenna (fig. 8), and the second portion at least partially extends over a second different adjacent side of the planar patch antenna, whereas conductor structures of the planar patch antenna are arranged as sheet-type conductor structures (fig. 8).

Claim 13: Poilasne teaches at least one parasitic transmitter is provided with a connection to ground (col. 4, lines 34-39).

Claim 16: Poilasne teaches the plurality of parasitic transmitters are arranged on opposite sides of the planar patch antenna (fig. 8).

Claim 19: Poilasne teaches one parasitic transmitter extends at least partially over three adjacent sides of the planar patch antenna (fig. 8).

Claim 21: Poilasne teaches the planar patch antenna and the parasitic transmitters are arranged in a same plane (fig. 8).

Claim 22: Poilasne teaches at least one parasitic transmitter has a spatial extension, emerging perpendicularly out of the plane defined by the planar patch antenna (col. 4, lines 38-39).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poilasne in view of Bosch (EP 1067627 A1, hereinafter Bosch).

Claim 14: Poilasne teaches all of the limitations of claim 12 as discussed above. Poilasne fails to teach the plurality of parasitic transmitters are provided with a shared connection to ground. However, Bosch teaches connecting two parasitic transmitters via a shared connection to ground (fig. 3). The claim would have been obvious because the substitution of one known element for another would have yielded predictable results to one of ordinary skill in the art at the time of the invention. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the ground connecting means of Bosch with the ground connecting means of Poilasne, with a reasonable

expectation of success, since the two ground connecting means are merely two different ways to connect parasitic transmitters to ground.

9. Claims 15 and 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Poilasne in view of Tan et al. (US 6,680,705, hereinafter Tan).

Claim 15: Poilasne teaches all of the limitations of claim 12, as discussed above. Poilasne fails to teach at least one parasitic transmitter is free of connections to ground. However, as was well known to the skilled artisan at the time of the invention, the coupling of parasitic transmitters to ground or not to ground varies the electrical characteristics of the antenna. Tan teaches the use of non-grounded parasitic radiators (fig. 8). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the non-grounded parasitic radiators of Tan as the parasitic radiators of Poilasne in order to have varied the electrical characteristics of the antenna.

Claim 17: The modified invention of Poilasne teaches all of the limitations of claim 15 as discussed above; however, fails to teach the plurality of parasitic transmitters are located on adjacent sides of the planar patch antenna. However, Poilasne teaches a planar patch antenna wherein the slots are located on adjacent sides (fig. 13). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the parasitic islands to the embodiment of fig. 13 of Poilasne in order to have reduced the dimensions of the patch by increasing the capacitance (col. 4, lines 24-39).

10. Claims 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Poilasne.

Claim 20: Poilasne teaches all of the limitations of claim 12 as discussed above. Poilasne fails to teach said one of said plurality of parasitic transmitters extends at least partially

over four sides of the planar patch antenna. However, Poilasne teaches a planar patch antenna having four sides (fig. 12). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the parasitic islands to the embodiment of fig. 12 of Poilasne in order to have reduced the dimensions of the patch by increasing the capacitance (col. 4, lines 24-39).

Response to Arguments

11. Applicant's arguments with respect to claims 12-17 and 19-22 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacob Y. Choi can be reached on 571-272-2367. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./
Examiner, Art Unit 2821

/Jacob Y Choi/
Supervisory Patent Examiner, Art Unit 2821